

PATHOLOGY.

14. *Fungus Hematodes of the Bones of the Cranium, Inferior Maxillary Bone, and Liver.*—A female, whose intellectual powers were but feebly developed, and who from her earliest infancy had been subject to epilepsy, paroxysms of which disease came on almost every night, but who in other respects usually enjoyed tolerable health, became irregular in her menstrual discharge in the forty-fourth year of her age. Soon after this period, a small tumour made its appearance upon the inferior maxillary bone. After the lapse of a year, when Dr. HANKEL first saw the patient, this tumour had acquired the size of a hen's egg, was situated upon the right horizontal branch of the inferior maxillary bone; presented a smooth, reddish surface, and was firm, elastic, immovable, and not attended by pain. The tongue at this time occupied its natural position. Dreading an operation, the patient refused to submit to any subsequent examination until six months had elapsed, at which period the tumour was found to have increased to triple its original size, filling the entire cavity of the mouth, and pushing the tongue out of its habitual position—it had also become rough upon the surface, painful, and evidently divided into two distinct portions. The pain continued to increase, deglutition became more and more difficult, and she died in a short time from inanition.

Post mortem.—Upon raising up the integuments of the cranium, a tumour of some lines in altitude, about the circumference of a quarter of a dollar, and situated upon the right parietal bone, was discovered, it was soft and firmly united to the pericardium. At the point corresponding, within the interior of the cranium, a similar tumour was observed, which had produced by keeping up a continued pressure upon the part, a depression of some lines in depth upon the surface of the brain. The dura mater did not adhere to this tumour, which was covered in a manner similar to the external one by an adherent membrane, which being removed, it was found that it was composed of a substance resembling the inflammatory coat of the blood. By maceration, this soft substance was separated from the bone, which was found covered with spiculae, and entirely composed of compact substance, the diploic structure having disappeared. At no great distance from this tumour, a portion of the cranium was observed of a deeper colour than the neighbouring parts, and apparently depressed. This was found to be a cavity, situated between the two tables of the parietal bone, the exterior one of which was thinner than usual. There was likewise observed adhering to the pituitary gland, a small body of a bright yellow colour, composed of a substance resembling coagulated albumen. The inferior maxillary bone was luxated, and susceptible of motion at its centre. The tumour was divided into two portions, each one of which equalled the fist in size, they seemed to arise one from the interior surface of the bone, the other from its exterior, and were covered by a white, smooth membrane. Their substance was white, partly fatty, and partly reduced to the consistency of jelly. The bone was completely destroyed at its centre, and splinters of bone were found imbedded in the substance of the tumours, which was likewise traversed by numerous blood-vessels. The convex surface of the liver presented two whitish tumours about the size of a walnut, composed of a whitish, fatty matter, and covered by a thin, white membrane. The other organs were found in a normal condition.—*Archives Générals, Dec. 1832, from Rust's Magazine, 1832, B. 37, S. 1.*

15. *Compression of the Medulla Oblongata, by the Odontoid Apophysis of the second Cervical Vertebra. Abscesses of the Cervical Vertebrae.*—In the month of March, 1830, Dr. HANKEL was requested to assist in the post mortem examination of a little girl, æt. 7, who, for several years had laboured under scrofulous tumours and abscesses in the neck, and had likewise suffered from repeated discharges of a purulent, fetid matter from the left ear. During the last year

of her existence, she had been subject to violent head-aches, and pains in the left side, particularly in the arm, the latter of which could sometimes be relieved by frictions. The left extremities also became atrophied, and appeared to be shorter than the right. Her intellectual faculties were by no means impaired, and she preserved her memory and senses to the last moment of her existence, which was brought about by hectic fever.

Autopsy.—The extremities of the two sides exhibited a striking disproportion to each other. The glands of the neck were found swollen; the brain and plexus choroidei were injected, whilst the cerebral substance retained its natural tint. Upon the left half of the medulla oblongata, a deep oval depression, produced by the processus dentatus of the second vertebra, was discovered. This process was moveable, and had passed through the occipital foramen. Upon dividing the ligaments of the neck, several ounces of liquid pus, of a yellow colour, and mixed with portions of tuberculous matter, escaped. The osseous substance of the atlas and second cervical vertebra was friable, and corroded by the pus—a more minute examination of the parts was not permitted. Tubercles were found in the lungs and mesenteric glands.—*Ibid.*

16. *Berzelius on the Chemical Constitution of Urine in Various Diseases.*—During the first period of fevers, the cutaneous transpiration being obstructed, the urine becomes more aqueous than in its healthy state: when the heat of the body increases, with acceleration of pulse, the urine becomes deeper coloured, without, however, letting fall a deposit, while its acid reaction diminishes, and at last nearly or entirely disappears; it is then rendered turbid by the addition of bichloride of mercury, which does not happen when the acid is present. As the disease advances the urine becomes more saturated, and is then rendered turbid by a solution of alum. When albumen is secreted more copiously, it is troubled by nitric acid and heat. When the fever ceases, as, for instance, on the seventh day, the free acid suddenly reappears, the colour of the urine deepens, and it forms a deposit by cooling. This deposit is not an evacuation of morbid matter, but is merely a combination of red colouring matter, with uric acid or urate of ammonia, and perhaps nitric acid, in an unknown state of combination. In intermittent fever the urine presents these phenomena at each paroxysm, and then the deposit assumes a carmine tint. During slow nervous fever, there is constantly formed an abundant deposit of uric acid, containing little colouring matter; the urine then contains an excess of the phosphates and a deficiency of urea, the other ingredients being in their normal proportion.

In anasarca, which is generally the result of debility of the whole system, serum is effused into the urinary passages; hence the urine appears albuminous, and is troubled by bichloride of mercury, although much free acid may be present. After a short time, the kidneys appear to secrete an albuminous fluid, which occasions the urine to be precipitated by a solution of alum, nitric acid, or heat. As the albumen increases in quantity, the urea diminishes, and finally disappears altogether. These phenomena likewise appear in chronic hepatitis, oyspepsia, and towards the close of pulmonary affections, especially during the last stage of hectic fever.

During severe vomiting, whether from scirrhus of the stomach or other causes, the urine is frequently turbid, and has a milky aspect, letting fall a white deposit, which, when collected, appears mucilaginous, and by desiccation becoming first yellow and translucent, then white and pulverulent; by affusion of water it resumes its mucilaginous form; pure potass dissolves out of it mucus, leaving a residue of phosphate of lime. Hydrochloric acid dissolves the latter and renders the mucus transparent, which also dissolves by digestion. This state is generally accompanied with alkaline urine, arising from the presence of the carbonates of soda and ammonia, diminished quantity of uric acid, and an excess of urea. In gout the urine is usually very acid, except during the paroxysms, when it becomes alkaline or neutral; uric acid is always present in considerable excess; the deposit is also abundant by cooling.

In jaundice the urine appears yellow, from an admixture of biliary matter; and on the addition of nitric acid, a play of colours is generally produced. Hydrochloric acid renders it green or brown, according to the state of modification in which the biliary matter exists. Sometimes orange-yellow flocculi are deposited: these are soluble in caustic potass, and give the usual reaction with nitric acid, in partial hepatic obstructions, when no discolouration of the skin has appeared: the bile, by passing through the lymphatic vessels of the engorged parts, enters the circulation, and may be detected in the urine by evaporating a portion of the latter, digesting the extract in alcohol of specific gravity .833, and letting the tincture evaporate to dryness. The addition of nitric acid will then produce the change of colours—viz. green, blue, violet, and yellow—which characterizes the colouring matter of bile. In spasmodic and hysterical affections, the urine often becomes limpid and colourless, being, indeed, merely a solution of the urinary salts, deprived of almost every particle of organic product.

In diabetes mellitus, an immense quantity of sugar is secreted. At the first access of the disease, the only symptoms are copious emission of urine and diminished appetite; the cutaneous transpiration is obstructed, and the urine is supplied with water from all the fluid ingesta. The specific gravity is often as high as 1.050; as the sugar increases the urea diminishes, and at last totally disappears: colour pale-yellow, taste sweet, odour like that of skim-milk; the inorganic salts are present in their natural proportion, being merely diluted with a larger quantity of fluid. Towards the close of the disease, when hectic fever makes its appearance, the urine becomes albuminous, and now passes spontaneously into the alcoholic fermentation; the quantity of urine expelled increases to an enormous amount. We may calculate by the following formula the weight of the dry extract in solution in the urine, and of course the quantity daily expelled. A pint of urine, specific gravity 1.020, leaves by evaporation 382.4 grains of dry extract; which weight increases in the proportion of 19.2 grains for each unit of specific gravity, until the latter amounts to 1.050; so that if we have a patient voiding urine of specific gravity 1.021, we can determine the weight of solid matter present in his urine by making this calculation, $382.4 + 19.2 = 401.6$ grs. in every pint. When diabetic urine is evaporated to dryness, and alcohol digested on the residue, the sugar and extractive matter are dissolved; this solution, by repose, leaves either granular crystals, like grape sugar, or merely a honey-like mass. We are ignorant whether this difference is owing to a diversity of saccharine matter, or to the presence of a deliquescent matter, which prevents its crystallizing. Sugar has been sought after in vain in the blood of diabetic patients: indeed this disease appears to be seated solely in the kidneys, which convert almost every portion of organic matter arriving in those viscera into sugar. When a favourable change takes place urea reappears, and a quantity of albumen makes its appearance in the urine.

M. Meissner, who has paid great attention to this subject, gives the following quantitative analysis of three specimens of diabetic urine, taken from the same patient at different periods:—

	1.	2.	3.
Matter soluble in ether, urea laetic acid, lactate lime, extractive matter	0.34	0.33	0.65
Matter soluble in alcohol, diabetic sugar, extractive matter, and salts	7.06	3.46	5.78
Matter soluble in water; extractive matter and salts	1.37	3.44	0.99
Vesical mucus, subphosphate of lime, and traces of peroxide of iron	0.34	0.31	0.46
Water	91.19	92.46	92.10

In diabetes insipidus no sugar is found, but there is present in the urine a

matter similar to that obtained by digesting alcohol on an aqueous extract of muscular fibre: no ultimate analysis of this matter has been as yet made.—*Lond. Med. Gaz.* June 22, 1833.

17. *Pathology of Phlegmasia Dolens.*—The following appearances were observed on dissection of a woman affected after parturition with phlegmasia dolens which proved fatal. The uterus exhibited nothing remarkable except the loaded state of the spermatic veins, which were very large and tortuous; the veins of the mesentery were also congested. The vena cava inferior was healthy down as far as its juncture with the renal vein, below which it was thickened, and filled with a fibrinous substance, varying in its consistence, and adhering to the inner coat of the vessel. On laying bare the femoral vein, the subcutaneous cellular tissue was found to be infiltrated with serum, the granules of fat much firmer and more distinct than natural, and the intervening cellular membrane thickened and opaque. The superficial fascia was dense, white, and of a flaky appearance, the lymphatic glands in the groin were large, full of serum, and closely matted together by condensed cellular tissue. It was extremely difficult to detach the iliac, femoral, and saphena veins, in consequence of their strong adhesions to their sheaths, and the surrounding organized lymph in which they were imbedded. These, together with the popliteal vein, were similar in condition to the inferior cava, except that the substance they contained was thinner, of a brown colour, and somewhat purulent appearance. In the remainder of the saphena, and in the veins near the foot, there was a plug of coagulum, they were otherwise healthy. The iliac and femoral arteries contained a small quantity of blood; the other arteries were empty.

This case appears to show conclusively that phlegmasia dolens does not depend solely upon inflammation of either veins or lymphatics, and this is confirmed by a case lately seen by Dr. Graves, in which both saphenae became inflamed and obliterated in consequence of a cutaneous eruption, without phlegmasia dolens being produced.—*Graves' Clinical Lectures, in Lond. Med. and Surg. Journ.* April 20th, 1833.

18. *Arteritis and Spontaneous Gangrene of the Right Lower Extremity—Arteries and Veins plugged up with Coagula.*—A girl, aged seventeen, previously in good health, was suddenly seized with shiverings, severe pains in the right leg, and especially in the foot of that side; the pains were so severe, that the patient compared them to tearing the nails from the flesh: in a few days the temperature of the limb began to lower and the foot assumed a bluish hue; her sufferings were not at all abated, in spite of bleeding and repeated bleedings, &c. She entered La Charité about a fortnight after the first seizure. The constitutional symptoms were those of general feverishness and malaise; and the pains in the foot, leg, and lower part of the thigh were so intense, that the slightest motion caused her to scream out;—the skin of the toes and instep presented some purplish blotches, and when felt by the hand, the temperature of the limb, up nearly as far as the knee, was much lower than that of the other one. No pulsations could be perceived in the anterior tibial artery on the instep, nor yet in the posterior, tibial, peroneal, and popliteal arteries; they were, however, sensible at the upper part of the thigh. Bleeding, general and local, emollients, and opiates were prescribed, but without relief; the blood when examined was of a blackberry jelly colour, and stained the linen with pale-red spots. The purple blotches extended up the limb, and the temperature became still lower. The constitutional symptoms soon assumed a more formidable aspect; the breathing was short and anxious, there was intolerable anguish and repeated vomitings and hiccup, and no sleep could be procured by any sedatives. Cramps and pains were felt also in the left limb, which was swollen and tender. On the fourth day after her admission into the hospital, the whole right foot was of a uniform brown colour, the epidermis was peeling off, and a gangrenous odour arose from it. She died on the following day.

Dissection.—The right foot was of a port wine colour at some points, and at others was perfectly black, especially around the toes, where the skin was hard and dried like leather; the subcutaneous cellular tissue was infiltrated with serum as far up as the lower part of the thigh; the muscles of the foot and leg were quite soaked with it, and resembled much the appearance of half decayed flesh. The left limb was also oedematous. The blood-vessels on the right side presented the following appearances; the erural artery from the groin to the ham was converted into a hard cord, whitish outwardly, and lined and plugged up with a dirty-white friable coagulum, which at some points adhered to the inner surface of the tube. Similar appearances were found in the rami perforantes of the femoral, in the two tibials and in the fibular arteries; the internal surface of all these vessels was of a marked livid-red colour; the inner coat was not however laeable, nor very evidently diseased; the *vasa vasorum* were not more developed than natural, and the surrounding cellular tissue was healthy. All the veins of the right foot were plugged up with coagula, some of a deep black, others of a grayish colour; the lower third of the internal saphena was also obstructed similarly. On tracing up the external saphena, the tibial and fibular veins of the erural, and even along the femoral, and external, and common iliaes to their junction with the *vena cava*, softened coagula was found in all, partially filling up their tubes.

The large nerves of the right limb were much redder than usual, and seemed as if injected with venous blood. The arteries of the left limb were sound, but the veins from the foot up to the common iliae, and even to its junction with the *vena cava* at different parts of their course contained softened broken down coagula.

The medullary substance of the brain presented the curious appearance of circular red circumscribed patches at various parts; in each of these circles the central point was of a darker hue than the circumference, so that they were not unlike to petechiae on the skin. The lungs were oedematous; the pulmonary veins contained fibrous clots, which adhered feebly to the walls of these vessels; the right ventricle of the heart was occupied by one large coagulum, which had all the appearance of gooseberry jelly. Numerous small petechial spots existed on the pleurz, costalis et pulmonalis.

Remarks.—We have observed that the lining surface of the arteries of the right limb was found reddened, but that there was no other sign or mark of morbid change in it. It has been much disputed by pathologists whether we are to admit this appearance as a test of preceding arteritis: Haller, Meckel, Bouillaud, Broussais, and others contend that it is; whereas, Corvisart, Laennec and Hodgson, Andral, &c. are of a different opinion, and assert that it is a "cadaveric phenomenon."

The following valuable observations are taken from the article "Arteritis," in the *Dictionnaire de Médecine, et de Chirurgie pratique*. "The redness may be wanting in true inflammation of the arterial tubes; and on the other hand it may be often observed, where no inflammation had ever existed; we not unfrequently see it in examining bodies which are partially putrid; and in these the imbibition of the bloody serum is no doubt the cause of the redness. Thus, we are not to consider the redness and swelling as pathognomonic morbid phenomena; nor yet, should they be wholly discarded. It must be admitted, however, that in by far the greater number of cases of arteritis, the redness, if it does exist, is not caused by the injection of the *vasa vasorum*, but rather by a tincture, or as it were a fixing of the colouring matter of the blood on the internal surface of the vessels; and that therefore this inflammatory blush does not essentially differ from the cadaveric imbibition."

Cruveilhier is of the same opinion as Bouillaud, the author of the article in question; he does not consider the mere presence of a red colouring of the inner coats of the arteries as characteristic of inflammation; we should find at the same time a pencilled injection of the *vasa vasorum* in the cellular coat of the vessels, and also coagula adhering more or less firmly to their inner surface;

it is this last appearance which, according to Cruveilhier, is to be depended upon chiefly. Gendrin, Delpech, and Dubreuil, state, that in arteritis, the lining surface of the vessels is red, has lost its glistening smoothness and polish, is somewhat rough or wrinkled, and may be readily detached, and that the other tunics are swelled and softened. The subject is still open to difference of opinion. Cruveilhier, as stated above, considers that the essential or pathognomonic character of inflamed arteries is, that the blood within them is coagulated. But we must be on our guard, lest we are led to believe that this change in the blood is found in all inflamed arteries; this is certainly not the case, as is fully established by M. Barde, in the first vol. of the *Revue Médicale*, and by M. Bouillaud, in his treatise on fevers. On the contrary, Haller expressly states—"In vasis etiam vivi corporis sanguis coit," and the truth of the remark is confirmed by every one.

M. Alibert, in his inaugural thesis, gives it as his opinion, that in cases of gangrene with arteritis, the formation of the clots precedes, and actually occasions by their irritation, the inflammatory state of the lining membrane of the arteries. Several very interesting examples are detailed in this thesis; in the 2d and 3d cases softening of the brain was found, with the morbid changes in the veins of the mortified extremity; and in the latter of these two cases an adherent clot was found in the left auricle; in another case, a clot was found in the pulmonary artery, and in a subsequent one, these sanguineous concretions existed not only in the vessels of the sphacelated limb, but also in the aorta, and in all its branches given off below the diaphragm; and in the common, internal, and external iliacs. Besides the venous trunk on the surface of the brain, and of the dura mater contained coagula; and at the upper and back part of the right hemisphere, a large black spot, two inches at least across, was observed; the texture of the brain was here exceedingly softened, and quite of a creamy consistence.—*Med. Chirurg. Rev. from Archives Générales.*

19. *Remarks on the Value of Pathological Anatomy.* By JAMES JOHNSON, M. D.—In the earlier days of physic, when morbid anatomy was uncultivated, and when, consequently, medicine had not the degree of exactness which it now possesses, men were thrown solely on the observation of facts, and a vast body of empiric experience was accumulated. We say empiric, because the nature of disease was unknown, and the observation consisted only in the statement of the results of the application of certain remedies to certain symptoms. Much practical truth was, no doubt, obtained; but, as many symptoms constitute only the common language of certain stages of diseases, totally differing in their characters and seat, it followed that much of the experience was fallacious, and men were ignorant why a drug succeeded in one case and utterly failed in another, which, to their eyes, appeared of a similar description. Hence all the vagueness, and much of the opprobrium, of physic.

When morbid anatomy was first explored, and its vast mines of real and solid information opened, men were dazzled by the glare of the wealth around them, and thought that it would suffice for all their necessities and wishes; in other words, they imagined that, to become good practitioners, it was merely necessary to know the real nature of disease, and the structural changes that accompany and occasion symptoms. The example of France is alone sufficient to display the fallacy of this expectation.

The truth is, that both means are necessary to constitute the knowledge available in practice. We should know the seat and the structural nature of disease, or we sink into empirics, and exactness is lost; we should know the effects of remedies on symptoms, as well as on structural lesions, or we become mere barometers of vital changes diagnostinating, prognosticating, doing every thing but cure.

At the present day, these two roads to knowledge may, happily, be joined. Men conversant in the exact truths of morbid anatomy may set themselves to observe the effects of medicines, and we need not say how incomparably supe-

rior the record of their experience is, to that empiric jumble of facts and fancies that has descended to us from our forefathers. We now appreciate the effects of remedies with some measure of certainty—we see how far organic lesions are amenable to treatment, and what medicines or means relieve particular symptoms, or sets of symptoms, not dependent on such lesions. In short, we have now a rational and scientific series of experiments, in clinical observation.—*Med. Chirurg. Rev. July, 1833.*

20. *On Hydatids and their Conversion into Tubercles.*—M. Kuhn has lately read before the French Academy a memoir on aecphalocysts, and the manner in which these parasitical productions give rise to tubercles. He holds the opinion of Laennec, Bremser, and others, that they are to be considered as truly of an animal nature; and draws a distinction between those found in the human body, from what are often seen in sheep and other lower animals; the former, says he, are always propagated by internal buds, or growths which are thrown off from the inner surface of the original hydatid, and may be, therefore, denominated "endogenous;" they may be compared to a nest of boxes, one within the other, whereas the latter produce buds only on their outer surface, and are, therefore, "exogenous." It was after a very careful examination of the lungs of oxen, which had died of a species of phthisis called "pommelière," that M. Kuhn was led to the belief of the degeneration or conversion of hydatids into tubercles. The hydatids, by their irritation, cause cysts to be formed around them; these cysts become stronger, fibrous, or even cartilaginous; meanwhile, the aecphalocysts enlarge by serous imbibition, and multiply by buds from their inner surface; these again, in course of time, give rise to others, the whole nest being contained in one bag. From the inside of this bag is secreted a yellowish viscid matter, which becomes thicker and thicker; M. Kuhn regards it as the primitive tuberculous deposit: it gradually solidifies, and, with a simultaneous shrinking of the cyst, tends to squeeze and kill the enclosed animals, thus giving rise to a nucleus of tubercles. Sometimes the tubercles are not entirely killed up, but are hollow, and we observe only the shell or dried husk of the aecphalocyst; we may even separate the thin layer of the animal from the debris within, by immersing some of the tubercles in water. M. Kuhn has enriched his memoir with beautiful illustrative drawings; they throw much light on the etiology of the tubercles which are found in the lungs and liver of ruminating animals. The coëxistence of hydatids and tubercles, in the same organs, is a fact at once curious and most interesting. The subject is one of much importance, and deserves future examination.—*Ibid. from Revue Médicale.*

21. *Sudden Death from Paralysis of the Lungs.*—The German authors attribute to this cause many of those instances of rapidly-fatal dyspnoea, which not unfrequently occurs during the course of other diseases, especially of phthisis. It is not uncommon for a medical man to leave his patient moderately comfortable, and apparently free from any immediate danger; and yet, in the course of a very few hours after, to be summoned to witness his death from complete strangulation. Dr. Schaeffer, of Ratisbon, first employed the appellation of pulmonary palsy to denote this affection; Storck called it *catarrhus suffocatus*, and Kerksga asthma paraliticus. It is common among infants, but still more so with old people. M. Lobstein regards many of the cases reported by Andral, (who was at a loss how to explain their fatality,) as instances of this disease. The following is an example.

A young man, aged twenty-eight, was admitted into the Strasburg Hospital with symptoms of general fever. Bleeding was ordered, and performed at 9 o'clock in the morning. At this time, there was no marked distress in the breathing; two hours afterwards intense dyspnoea came on, and this was accompanied with a strung mucous râle; the dyspnoea was speedily aggravated to orthopnoea; a severe pain and inward heat were felt along the entire length of

the spine. The bleeding was repeated, with some relief to the symptoms, but the patient died soon after quite asphyxiated. On dissection no satisfactory morbid appearances were found.

Two other similar cases are reported; they occurred in phthisical patients. M. Louis, in his great work, "Recherches Anatomico-pathologiques sur la Phthisie," inquires—"How shall we explain so sudden a death, when there has been no apparent accident, nor any precurser nor concomitant phenomenon?" We answer that it is not necessary to discover indurations, hepatization, engorgement, or ulcerations, upon dissection, but that we must remember that the lungs are vital organs, and that their vitality may become suddenly affected by paralysis.—*Ibid. from Archives Générales.*

MATERIA MEDICA.

22. *Therapeutic effects of the Syrup and Extract of the Shoots of Asparagus.*—The following observations by M. GENDRIN, relative to the action of the syrup of the shoots of asparagus, are calculated to fix the value of that therapeutic agent. The syrup employed by M. Gendrin had been made the preceding year, and he administered it to persons in health and to those who were slightly unwell. He daily observed the state of the pulse in these persons, and measured the quantity of their drinks, and the urine they passed. All of them without exception had the quantity of their urine increased, and this commenced when the syrup was given in the dose of an ounce to an ounce and a half, but was not very marked until two ounces of the medicine were taken at a dose. When taken in this dose the urine tripled, quadrupled, and even quintupled the quantity of drink, in all the individuals. When this abundant diuresis was established, the greater number of these persons experienced thirst, and all had a considerable increase of appetite. M. G. repeated these experiments upon three series of persons, consisting of three, of five, and of four. He never gave with the medicine any other drinks or other medicine than a pint and a half of barley water, and of liquorice-root water. He never found the least odour of asparagus in the urine of these persons, nor their pulse to be lessened a single stroke. The day after the syrup of the shoots of asparagus was suspended, the diuresis ceased. In this respect the diuretic differs from the digitalis, after the use of which the patients continue to urinate copiously for seven or eight days. M. G. has administered the syrup of the shoots of asparagus to patients affected with dropsy, and particularly where that disease resulted from an affection of the heart. In all diuresis was produced; the remedy never failed except in patients in the last stage of the disease, when it is known that all diuretics fail. The action of the remedy upon patients affected with disease of the heart was never observed by any effect upon the heart. "If," says M. G. "some of them have had their dyspnoea relieved, this is what results in these cases from the use of all diuretics, when the diuresis is well established; this however does not prevent my admitting that there are some diuretics which act upon the heart. But I affirm that I have never been able to discover after the most careful examination, either in healthy persons or in those affected with disease of the heart, the slightest influence exercised over the action of this organ by the syrup of the shoots of asparagus."

M. Gendrin has also used the extract of the shoots of asparagus, prepared by evaporating their juice. The extract he used corresponded to 48 grs. for an ounce of the syrup. This he states to be more actively diuretic than the syrup. In the dose of 36 grs. it acts very powerfully, and in the dose of 48 grs. it is as efficacious as the syrup in the dose of two ounces. It does not exert any appreciable action upon the heart; does not produce any effect on the digestive organs, nor give any odour to the urine.—*Gaz. Méd. de Paris, June, 1833.*